

FIRST REPORT OF A TWISTED-WING INSECT (STREPSIPTERA) LARVA IN A CADDISFLY (TRICHOPTERA)¹

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ABSTRACT: A microcaddisfly *Oxyethira janella* (Trichoptera: Hydroptilidae) was observed with a first stage strepsipteran triungulin larva in its abdominal cavity. The triungulinid belongs to the genus *Xenos* or *Pseudoxenos* (Strepsiptera: Stylopidae). This is the first report associating Strepsiptera with Trichoptera.

While identifying adult aquatic insects, the senior author removed a strepsipteran triungulin larva from the abdominal cavity of a female microcaddisfly, *Oxyethira janella*. The *O. janella* specimen was collected by light trap on the South Fork Edisto River, a Coastal Plain sand bottomed blackwater river near Cope, Orangeburg County, South Carolina, on October 22, 1990. Subsequently, the junior author identified the strepsipteran as a first stage larva of either *Xenos*, a *Polistes* wasp parasitoid, or *Pseudoxenos*, a parasitoid of sphecids and eumenid wasps. The mounted triungulin specimen is in the University of California at Davis Insect Museum.

Polistes wasp colonies are extremely common in the dense riparian vegetation overhanging the South Fork Edisto River. Roving triungulin larvae released from strepsipteran parasitized wasps may come into contact with caddisflies and other insects seeking daytime shelter in the low light, high humidity environment of the riparian vegetation.

The *O. janella* specimen containing the triungulinid in its abdomen was probably incidentally "parasitized." Due to the relative short life span of most caddisfly adults, a strepsipteran may not be able to complete its life cycle in a caddisfly even if it were physiologically adapted to the host's body. In addition, the small (1 mm long) abdomen of *O. janella* may not allow the complete development of the triungulin larva to an adult.

To our knowledge, no aquatic insect has been reported as a normal or incidental strepsipteran host. Aquatic entomologists, however, may wish to look for additional examples of strepsipteran "parasitism" while they are involved in adult aquatic insect identification.

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